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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/575,032

04/07/2006

Martin Tank

P06,0015

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PATENT DEPARTMENT
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EXAMINER

GRAF, NEIL J

ART UNIT

PAPER NUMBER

3737

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DELIVERY MODE

03/11/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/575,032	Applicant(s) TANK, MARTIN	
	Examiner NEIL J. GRAF	Art Unit 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because Figure 4 fails to label the boxes to which they represent, e.g. 11-17. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. Applicant stated on the record that Figures 1, 2, 4 were amended and shown on replacement sheets. No such replacement sheets were received by the USPTO.

Specification

3. The substitute specification filed on 4-7-06 has been entered.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 30 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Given the broadest reasonable interpretation of the claim, a computer readable medium can be a signal, and therefore covers a non-statutory embodiment.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 16-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Regarding claim 16, it is unclear and indefinite as recited, what exactly is referenced to the patient for the recitation of “reference to the patient” on line 3. It is further unclear on line 10 if the subsequent slice images are generated using MR. For the recitation on line 12 stating, “dependent on a relative....body model,” it is indefinite and unclear if these limitations are intended to apply to the initial MR overview images or the subsequent slice image exposures. The descriptor, “individualized body model,” is implied within the claim, but lacks antecedent basis.

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8. Regarding claim 17, the recitation of “standardized arrangement” is indefinite and unclear.
9. Regarding claims 19-20, it is unclear and indefinite what the intended meaning is for the phrase, “of no greater than approximately,” where approximately infers a value greater than the approximate value, which is in conflict with “of no greater than.”
10. Regarding claim 22, it is indefinite and unclear which model is being referenced for the recitation of “model parameters” on line 2.
11. Regarding claim 23, “linguistic destination” is indefinite and unclear.
12. Regarding claim 24, it is unclear and indefinite if “description of said patient” on line 4 is the same as “a patient description” on line 2.
13. Claim 25 recites the limitation “dependent on said individualized body model,” where claim 16 recites the subsequent slice image exposures being dependent upon the limitations as recited in claim 25, in addition to further limitations. For this reason claim 25 lacks insufficient antecedent basis.
14. Regarding claim 28, for line 4 it is unclear and indefinite if “using said individualized body model” is intended to be used for obtaining the subsequent MR exposures or for positioning the patient.
15. Regarding claim 29, the term “substantially” lacks proper metes and bounds. The descriptor on lines 2-3 for “subsequent magnetic resonance images” lacks antecedent basis.
16. Regarding claim 30, it is unclear on line 10 if the subsequent images are obtained using MR. Lines 13-14 for “individualized body model,” is implied within the claim, but lacks antecedent basis.

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17. Regarding claim 31, it is unclear on line 10 if the subsequent images are obtained using MR. Lines 13-14 for “individualized body model,” is implied within the claim, but lacks antecedent basis.

18. Regarding claim 32, it is unclear on line 8 if the subsequent images are obtained using MR. Lines 11-12 for “individualized body model,” is implied within the claim, but lacks antecedent basis. This claim recites in the preamble an apparatus, but proceeds to claims method steps. For the purposes of this examination this claim will be interpreted the same as claim 16.

Claim Rejections - 35 USC § 102

19. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

20. Claims 16-18, 21-24, 28-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang et al. (Patent No.: US 6,195,409).

21. It is noted Chang et al. discloses a method for determining the orientation of MR slice images by, generating an arrangement of standardized cross-section (see Figure 3 for the bounding box) initial MR overview exposures (localizer scans) where a predetermined template model is individualized using an abstract model of the localizer scans by using a computer algorithm to match the two. Location and orientation information for subsequent scans is automatically determined after the initial MR overview scans are obtained, and is further dependent upon the relative orientation of the individualized template model. It is further

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disclosed that a quality of individualization to the template model (automatic quality control for a good fit) is performed iteratively by adjusting model parameters (geometric transformations) for rotation, translation, stretching, smearing,....purposes. Also disclosed is the determination of a linguistic (command) destination selected by an operator for positioning the patient (object) by automatically driving the scanner to monitor a patient position through the use of protocols that contain scanning information and parameters from the individualized body model. Chang et al. further discloses a control device (computer) for operating an MR apparatus and being programmed with software to control the scanner, in addition to disclosing memory for storing templates and imaging protocols. For a complete description of these and other limitation, see: (abstract, column 2 for lines 66-67, column 3 for lines 1-63, column 4 for lines 15-67, column 5 for lines 38-67, column 6 for lines 1-13)

Claim Rejections - 35 USC § 103

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

23. Claims 19-20, 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (Patent No.: US 6,195,409) in view of Itti et al. ("Automatic Scan Prescription for Brain MRI" Magnetic Resonance in Medicine 45:486-494 (2001)).

It is noted Chang et al. does not disclose an output in the form of a linguistic or graphical format for visualizing the position and orientation of subsequent slice images; using an

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individualized body model for calculating a body weight; generating cross-sectional initial exposures with intervals of no greater than 15 or 50 cm. Itti et al. is directed towards the field of determining subsequent slice image orientations for MRI slice images, and does disclose outputting the position and orientation in graphical format for visualizing subsequent slice images with slice gaps of 1 mm, where it would be obvious to compute a body weight since the scanning volume is determined for a patient in Itti et al. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the limitations of Chang et al. with Itti et al.. The motivation to do so would be that both are directed towards the process of using an individualization process for matching models to images for the purpose of executing subsequent scans of patients.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NEIL J. GRAF whose telephone number is (571)270-5366. The examiner can normally be reached on M-F, 7:30-5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ruth S. Smith/
Primary Examiner, Art Unit 3737

/NEIL J. GRAF/
Examiner, Art Unit 3737